

WHAT IS CLAIMED IS:

1. A method for establishing a communications channel over an IP-based network comprising:

receiving endpoint information regarding a desired communications channel to be established between at least two endpoints, wherein said endpoint information includes at least a public IP address for each of said at least two endpoints;

creating a cross-connection between the at least two public IP addresses; and
providing a cross-connection ID to the at least two endpoints.

2. The method according to claim 1, wherein the cross-connection ID includes a public IP address and a port ID.

3. The method according to claim 2, wherein each of the at least two endpoints is assigned a unique combination of a public IP address and a port.

4. The method according to claim 2, wherein each of the at least two endpoints is assigned a same combination of a public IP address and a port.

5. The method according to claim 1, wherein the endpoint information is received from an intermediate device attempting to establish the communications channel between the at least two endpoints.

6. The method according to claim 1, further comprising receiving one or more packets from a first endpoint of the at least two endpoints at an IP address and port specified in the cross-connection ID.

7. The method according to claim 6, further comprising forwarding the one or more packets from the first endpoint received at the IP address and port to an outgoing port addressed to a second endpoint of the at least two endpoints.

8. The method according to claim 7, further comprising forwarding the one or more packets from the first endpoint to the second endpoint.

9. The method according to claim 8, further comprising receiving one or more packets from the second endpoint at an IP address and port specified in the cross-connection ID.

10. The method according to claim 9, further comprising forwarding the one or more packets from the second endpoint received at the IP address and port to an outgoing port addressed to the first endpoint.

11. The method according to claim 10, further comprising forwarding the one or more packets from the second endpoint to the first endpoint.

12. A method for establishing a communications channel over an IP-based network between at least three endpoints comprising:

receiving endpoint information regarding a desired communications channel to be established between at least three endpoints, wherein said endpoint information includes at least a public IP address for each of said at least three endpoints;

creating a cross-connection between the at least three public IP addresses; and providing a cross-connection ID to the at least three endpoints.

13. The method according to claim 12, wherein the endpoint information is received from an intermediate device attempting to establish the communications channel between the at least three endpoints.

14. The method according to claim 12, further comprising receiving one or more packets from a first endpoint of the at least three endpoints at an IP address and port specified in the cross-connection ID.

15. The method according to claim 14, further comprising receiving one or more packets from a second endpoint of the at least three endpoints at an IP address and port specified in the cross-connection ID.

16. The method according to claim 15, further comprising receiving one or more packets from a third endpoint of the at least three endpoints at an IP address and port specified in the cross-connection ID.

17. The method according to claim 16, further comprising:

mixing the one or more voice packets from the first and second endpoints to create a first mixed set of one or more packets;

mixing the one or more voice packets from the first and third endpoints to create a second mixed set of one or more packets; and

mixing the one or more voice packets from the second and third endpoints to create a third mixed set of one or more packets.

18. The method according to claim 17, further comprising:

outputting the first mixed set of one or more packets to a port addressed to the third endpoint;

outputting the second mixed set of one or more packets to a port addressed to the second endpoint; and

outputting the third mixed set of one or more packets to a port addressed to the first endpoint.

19. The method according to claim 18, further comprising:

forwarding the first mixed set of one or more packets to the third endpoint;

forwarding second first mixed set of one or more packets to the second endpoint;

and

forwarding the third mixed set of one or more packets to the first endpoint.

20. The method according to claim 12, wherein the cross-connection ID includes a public IP address and a port ID.

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21. The method according to claim 12, wherein each of the at least three endpoints is assigned a unique combination of a public IP address and a port.

22. The method according to claim 12, wherein each of the at least three endpoints is assigned a same combination of a public IP address and a port.

23. An apparatus for establishing a communications channel over an IP-based network comprising:

a call coordinator coupled to the IP-based network and establishing a connection between two or more endpoints; and

a server coupled to the IP-based network, said server receiving endpoint information from the call coordinator regarding a desired communications channel to be established between the at least two endpoints, wherein said endpoint information includes at least a public IP address for each of said at least two endpoints, said server creating a cross-connection between the at least two public IP addresses, and said server providing a cross-connection ID to the at least two endpoints via the call coordinator.

24. The apparatus according to claim 23, wherein said server:

mixes one or more voice packets from the first and second endpoints to create a first mixed set of one or more packets;

mixes one or more voice packets from the first and third endpoints to create a second mixed set of one or more packets; and

mixes one or more voice packets from the second and third endpoints to create a third mixed set of one or more packets.

25. The apparatus according to claim 24, wherein said server:

- outputs the first mixed set of one or more packets to a port addressed to the third endpoint and forwards the first mixed set of one or more packets to the third endpoint;
- outputs the second mixed set of one or more packets to a port addressed to the second endpoint and forwards second first mixed set of one or more packets to the second endpoint; and
- outputs the third mixed set of one or more packets to a port addressed to the first endpoint and forwards the third mixed set of one or more packets to the first endpoint.